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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,548	04/19/2004	Dale B. Schenk	15270J-004747US	3885

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EXAMINER	
KOLKER, DANIEL E	

ART UNIT	PAPER NUMBER
1649	

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09/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/828,548	SCHENK, DALE B.	
	Examiner	Art Unit	
	Daniel Kolker	1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/24/07, 6/22/07*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *177,196 and 198* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *177,196 and 198* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/27/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 177, 196, and 198 are pending and under examination.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 24 April 2007 and 22 June 2007 have been entered.

Withdrawn Rejections and Objections

3. The following rejections and objections set forth in the previous office action are withdrawn:

A. Applicant is reminded that the rejections under 35 USC 112, first paragraph and 35 USC 112, second paragraph were explicitly withdrawn in the advisory action mailed 8 June 2007.

B. The provisional obviousness-type double patenting rejection over 10/704070 is withdrawn as the '070 application has been abandoned.

C. The provisional obviousness-type double patenting rejection over 10/232030 is withdrawn, as all pending claims in the '030 application are drawn to products, which are patentably distinct from methods.

D. The rejection of claim 197 (paragraph 9 in the office action mailed 24 October 2006) is moot as claim 197 is canceled.

Information Disclosure Statement

4. The IDS filed 27 June 2007 has been considered. References 790, 793, and 838 have been crossed off as no dates are supplied on either the IDS or the references themselves and thus the examiner cannot determine if the references constitute prior art.

Priority

5. The effective filing date for all pending claims is 7 April 1998 for the reasons previously made of record. Applicant did not traverse the examiner's determination that this is the appropriate effective filing date for the pending claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 177, 196, and 198 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker (EP 0 613 007, published 31 August 1994, of record) in view of Hanan (1996. Amyloid:Int J. Exp. Clin. Invest. 3:130-133, reference 182 on IDS filed 4 August 2005).

This rejection stands for the reasons of record. Briefly, Becker teaches administration of antibodies that bind to beta amyloid for treatment of Alzheimer's disease, which is on point to claims 177 and 196. The reference explicitly teaches therapeutic applications of the antibodies, specifically for treating Alzheimer's; see column 7 lines 32 – 52. The reference teaches that in vivo administration of antibodies is appropriate (column 7 lines 44 – 52). Becker explicitly teaches that Alzheimer's is due to aggregation of Aβ (column 1 lines 1 – 17), which is on point to claim 196, and teaches the intravenous route of administration (column 8 lines 38 – 42), which is on point to claim 198. However Becker does not teach administration of antibody 10D5 as recited in claim 196.

Hanan teaches monoclonal antibody 10D5, which is on point to claim 177. The reference teaches that among the four monoclonal antibodies tested, 10D5 is the best in inhibiting aggregation of Aβ peptide (p. 132, see also Figure 1). Hanan teaches that the results indicate that this discovery "may provide a factual basis for using monoclonal antibodies to prevent the β-amyloid formation that is associated with Alzheimer's disease." (p. 130, abstract) Hanan also teaches that the findings are on point to treatment of Alzheimer's disease, encompassed by claim 177 and recited in claim 196, by administering immunoglobulin molecules (p. 132, final paragraph). While Hanan teaches the efficacy of 10D5 antibody in disrupting Aβ aggregates and suggests it may be useful in developing treatments of Alzheimer's

disease, the reference does not actually teach administration of the antibody as recited in claim 177.

It would have been obvious to one of ordinary skill in the art to select the 10D5 antibody, taught by Hanan, to be administered i.v. for treatment of Alzheimer's disease as taught by Becker, with a reasonable expectation of success. The motivation to combine the teachings would be to select an effective antibody, as Hanan showed the superior efficacy of 10D5 in inhibiting Aβ aggregates, which both references recognized as playing an important role in development of the disease. It would be reasonable to expect success in combining these teachings, as Becker teaches that antibodies which bind to Aβ are useful in treating Alzheimer's, and Hanan teaches particular antibodies including 10D5 which bind to Aβ and inhibits its aggregation, which is expected to reduce the degree of amyloid deposited (p. 130, second column, first paragraph). While claim 177 requires 10D5 antibody to be that with ATCC accession number PTA-5129, a name which is not explicitly recited in Hanan, the examiner notes that Hanan in fact obtained the 10D5 antibody from D. Schenk, the instant inventor (see Hanan p. 131, "Antibodies"). Furthermore it is noted that applicant did not traverse the examiner's assertion, set forth at pp. 4 – 5 of the office action mailed 24 October 2006, that the antibody recited in claim 177 is the same as that taught in Hanan. Given that they have the same unusual name and both bind Aβ protein, it is reasonable they are the same, even though Hanan's 10D5 was not identified by ATCC number.

At pp. 6 – 9 of the remarks filed 24 April 2007, applicant argues that the claimed invention would not have been obvious to one of ordinary skill in the art. Applicant makes the following points, each of which will be addressed in turn:

1) The motivation to combine the teachings "must have sufficient 'force' to 'impel persons skilled in the art to do what applicant has done'" and that the combination of references provided by the examiner fails to meet this standard,

2) Several persons skilled in the art, quoted in various articles, expressed surprise at the approach used by the inventor, specifically treatment of Alzheimer's with either active or passive immunization.

Applicant's arguments have been fully considered but they are not persuasive. With respect to 1), the two references cited (Becker and Hanan) do in fact impel the artisan of ordinary skill to select 10D5 as the specific antibody to be administered. While Becker discusses antibodies which bind to Aβ protein as suitable for treatment, the reference by Hanan specifically points to

the superior nature of 10D5 in inhibiting aggregation of Aβ, which is a physiological mechanism related to the onset of Alzheimer's disease. Thus the references do in fact impel the artisan of ordinary skill to select 10D5 for treatment in the methods enumerated by Becker, just as applicant has done.

With respect to 2), the multiple articles which were provided by applicant in the response filed 24 April 2007 have been considered. While some of the articles express surprise at the success of immunotherapy (as applicant indicates on p. 8 of the remarks, the articles are on point to active immunotherapy as opposed to passive antibody administration, yet the hypothesized mechanism underlying the two is similar), it appears the authors and quoted individuals do not address the teachings of Becker, which clearly indicate that antibodies to Aβ protein should be administered to patients with Alzheimer's disease in order to treat said disease, and do not indicate how the instant invention is non-obvious over Becker and Hanan. Dr. Sisodia, quoted in Science News Online (Exhibit G), appears to doubt the ability of antibodies to enter the brain; certain other exhibits also report surprise in their efficacy (Exhibits H and I, for example). However not only does Becker (1994) teach the efficacy of antibodies administered to people for treatment of Alzheimer's disease, that reference is not the only one to suggest the ability of antibodies against Aβ protein to cross the blood brain barrier (BBB). For example, Majocha et al. (U.S. Patent 5,231,000 issued 27 July 1993) teach that antibodies against Aβ protein are suitable for *in vivo* diagnosis of Alzheimer's disease (note Majocha uses the term "A4" which is synonymous with Aβ; see Becker column 1 second paragraph). Majocha specifically teaches that the antibodies against Aβ protein can be used for *in vivo* diagnostic imaging (column 5 lines 15 – 55, for example; see also claims 7 – 9 which encompass *in vivo* detection of Aβ protein in brain tissue with the antibodies). As Majocha, issued well over a year before the effective filing date of the instant application, teaches and claims such *in vivo* detection by administering the antibodies, the artisan of ordinary skill immediately understand that the antibodies are able to cross the blood brain barrier. Thus the artisan would have a reasonable expectation of succeeding in the methods now claimed, which similarly require administration of antibodies that bind Aβ and which might also require the antibodies to cross the BBB. Therefore, arguments that it was somehow surprising that antibodies against Aβ protein were successful in treating Alzheimer's, as is taught by Becker, are not persuasive. The remarks and accompanying articles provide no teachings away from the claimed invention, and Becker provides a reasonable expectation of success in treating Alzheimer's with antibodies.

This expectation is confirmed by Majocha, whose patent indicates the ability of antibodies to cross the BBB and label brain tissue.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 177, 196, and 198 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18 – 22 of copending Application No. 11/520438. Although the conflicting claims are not identical, they are not patentably distinct from each other because in the '438 case the claims encompass administration of humanized 10D5, whereas the instant claims require administration of 10D5, which is not humanized. However it would have been obvious to one of ordinary skill in the art to administer the 10D5 antibody as instantly claimed, particularly to non-human patients. The scope of the instant claims is not limited to human, so the artisan of ordinary skill would have

found it obvious to use unmodified 10D5 as instantly claimed, as opposed to humanized 10D5 as in the '438 application. Applicant acknowledged that the subject matter in '438 is similar to that now claimed, and indicated a terminal disclaimer might be provided in the future, however no such disclaimer has yet been filed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

8. No claim is allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Kolker whose telephone number is (571) 272-3181. The examiner can normally be reached on Mon - Fri 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel E. Kolker/
Patent Examiner
Daniel E. Kolker, Ph.D.
September 4, 2007